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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,323

05/31/2005

Djemel Ziou

BKP-100

6937

48388 7590 03/20/2009  
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EXAMINER

LE, BRIAN Q

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

03/20/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,323	<b>Applicant(s)</b> ZIOU ET AL.	
	<b>Examiner</b> BRIAN Q. LE	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-45 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-43, drawn to a method for generating computation image model comprises of pixels/faces, image features and using algebraic structure and operations to define relation between quantities of image features, classified in class 382, subclass 113.
  - II. Claim 44, drawn to a method which generate a computation framework to solve a heat transfer problem comprising produce an image of pixels and further utilize geometrical complexity, algebraic form and coboundary to further define relation between q-cochains such as computing q-cochain, find q-cochain in a geometrical complex, defining q-cochain and establishing relation between q-cochains, classified in class 382, subclass 199.
  - III. Claim 45, drawn to a method which generate a computation framework for two-dimensional active contour model comprising produce an image of pixels and further utilize geometrical complexity, algebraic form and coboundary to further define relation between q-cochains such as computing displacement of q-cochain, computing strain q-cochain of geometrical complexes by defining an approximate strain function of q-cochain, expressing q-cochain as a function of the approximate strain function and relative positions of geometrical complexes and computing a force q-cochain of geometrical complex as a coboundary of the strain q-cochain, classified in class 382, subclass 266.

2. Inventions I, II and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the broadest combination independent claims 44 or 45 do not required the specific recited in the broadest subcombination claim 1. The subcombination has separate utility such as generating computation image model comprises of pixels/faces, image features and using algebraic structure and operations to define relation between quantities of image features. Combination II has separate utility such as generate a computation framework to solve a heat transfer problem comprising produce an image of pixels and further utilize geometrical complexity, algebraic form and coboundary to further define relation between q-cochains such as computing q-cochain, find q-cochain in a geometrical complex, defining q-cochain and establishing relation between q-cohains. Combination III has separate utility such as generate a computation framework for two-dimensional active contour model comprising produce an image of pixels and further utilize geometrical complexity, algebraic form and coboundary to further define relation between q-cochains such as computing displacement of q-cochain, computing strain q-cochain of geometrical complexes by defining an approximate strain function of q-cochain, expressing q-cochain as a function of the approximate strain function and relative positions of geometrical

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complexes and computing a force  $q$ -cochain of geometrical complex as a coboundary of the strain  $q$ -cochain.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN Q. LE whose telephone number is (571)272-7424. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on 571-272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Brian Q Le/

Primary Examiner, Art Unit 2624

Wednesday, March 18, 2009